

## ABSTRACT

The invention relates to a method for producing defined layers or layer systems made of polymers or oligomers on any solid surface and with a controlled structure, according to which the layers are chemically deposited on the solid surface by means of living/controlled free-radical polymerization. Said method comprises the following steps: a) bonding the compounds of the general formula (a) A-L-I to the solid surface via the active group A, where A represents an active group, I is the initiating group for ATRP polymerization and L is the binding link between A and I; and b) carrying out living/controlled free-radical polymerization by reacting the initiator group I with monomers, macromonomers or mixtures able to undergo free-radical polymerization, which produces the polymer layer on the solid surface. The invention also relates to solid surfaces with oligomer or polymer layers and initiators for carrying out the method.